

REMARKS

Foreign Priority

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received, is noted with appreciation.

Status Of Application

Claims 1-12 are pending in the application; the status of the claims is as follows:

Claims 11 and 12 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,601,352 to Okamura (hereinafter the “Okamura patent”).

Claims 1, 3, 4, and 7-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,185,045 to Hanano (hereinafter the “Hanano patent”).

Claims 2, 5, and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hanano patent in view of the Okamura patent.

Drawings

To date, no Notice of Draftsperson’s Patent Drawing Review has been received. Applicants respectfully request receipt of this document when it becomes available.

Objection to the Title

The objection to the title of the invention as not being descriptive is noted and a new title is presented in this Amendment which is clearly indicative of the invention to which the claims are directed. Accordingly, reconsideration and withdrawal of the objection is respectfully requested.

Claim Amendments

Claims 1 and 11 have been amended to more particularly point out and distinctly claim the invention. These changes do not introduce any new matter.

New Claims

Claim 13 has been added to provide a more adequate basis for protection of the invention. Support for claim 13 can be found within the specification, original claims, and figures. Specifically, support can be found by reference to Figures 1-3 and page 7, lines 12-19 of the specification as well as to original claims. No new matter was added.

35 U.S.C. § 102(b) Rejection

The rejection of claims 11 and 12 under 35 U.S.C. § 102(b) as being anticipated by the Okamura patent, is respectfully traversed based on the following.

Claim 11 is directed to a head-mounted image display apparatus comprising:

A head-mounted image display apparatus comprising:
an image display element;
a projection optical system that projects an image displayed by said image display element;
a screen onto which the image is projected by said projection optical system; and
a combiner that reflects image light reflected at said screen, and **simultaneously** transmits external light.

Claim 11 is not anticipated by the Okamura patent. Claim 11 requires that the combiner reflects image light reflected at said screen, and **simultaneously** transmits external light. In doing so, the user observes the image light and the external light simultaneously.

In contrast, the Okamura patent does not disclose such a limitation. The Okimura patent discloses that, when the shutter 16 is opened, the half mirror 15 transmits external light. However, the Okamura patent does not disclose how the image light is handled at

that time. That is, the Okamura patent **does not** disclose reflecting the image light reflected at the screen and **simultaneously** transmitting external light so that the user observes the image light and the external light simultaneously. Therefore, claim 11 is not anticipated by the Okamura patent. As claim 12 depends from non-anticipated independent claim 11, it too is not anticipated by the Okamura patent.

Accordingly, it is respectfully requested that the rejection of claims 11 and 12 under 35 U.S.C. § 102(b) as being anticipated by the Okamura patent, be reconsidered and withdrawn.

35 U.S.C. § 103(a) Rejections

The rejection of claims 1, 3, 4, and 7-10 under 35 U.S.C. § 103(a), as being unpatentable over the Hanano patent, is respectfully traversed based on the following.

Claim 1 is directed to a head-mounted image display apparatus comprising:

an image display element;
a projection optical system that projects an image displayed by said image display element;
a screen onto which the image is projected by said projection optical system; and
a combiner disposed between said projection optical system and said screen,
wherein said combiner transmits image light from said projection optical system and directs it to said screen, and reflects the image light reflected at the screen while **simultaneously** transmitting external light.

As acknowledged in the Office Action, the Hanano patent “is silent of teaching a projection optical system that projects an image displayed by said image display element”. Further, as is acknowledged in the Office Action, the Hanano patent “is silent as to said external light transmission and optical element”. Still further, the Hanano patent does not disclose or suggest a head-mounted image display apparatus wherein said combiner transmits image light from said projection optical system and directs it to said screen, and reflects the image light reflected at the screen while **simultaneously** transmitting external light. Therefore, claim 1 is not obvious with respect to the Hanano patent. As claims 3, 4,

and 7-10 depend either directly or indirectly from non-obvious independent claim 1, they too are not obvious over the Hanano patent.

Accordingly, it is respectfully requested that the rejection of claims 1, 3, 4 and 7-10 under 35 U.S.C. § 103(a) as being unpatentable over the Hanano patent, be reconsidered and withdrawn.

The rejection of claims 2, 5, and 6 under 35 U.S.C. § 103(a) as being unpatentable over the Hanano patent in view of the Okamura patent, is respectfully traversed based on the following.

Claim 2 has been cancelled herein.

Claims 5 and 6 depend indirectly from independent claim 1.

As acknowledged in the Office Action, the Hanano patent “is silent of teaching a projection optical system that projects an image displayed by said image display element”. Further, as is acknowledged in the Office Action, the Hanano patent “is silent as to said external light transmission and optical element”. As discussed above, claim 1 requires a combiner wherein said combiner transmits image light from said projection optical system and directs it to said screen, and reflects the image light reflected at the screen while **simultaneously** transmitting external light. Neither the Hanano patent nor the Okamura patent disclose or suggest a combiner wherein said combiner transmits image light from said projection optical system and directs it to said screen, and reflects the image light reflected at the screen while **simultaneously** transmitting external light. Further, there is no motivation to combine the two references, nor would such a combination provide the head mounted image display apparatus of claim 1 of the present application. Therefore, claim 1 is not obvious with respect to the Hanano patent or the Okamura patent. As claims 5 and 6 depend indirectly from non-obvious independent claim 1, they too are not obvious over the Hanano patent or the Okamura patent either singly or in combination.

Accordingly, it is respectfully requested that the rejection of claims 5 and 6, under 35 U.S.C. § 103(a) as being unpatentable over the Hanano patent in view of the Okamura patent, be reconsidered and withdrawn.

NEW CLAIM 13

Claim 13 is directed to a head piece having a hood, visor, and an image display apparatus wherein a composite optical power of said eyepiece optical system and said optical element is substantially zero, and wherein said image display apparatus is positioned substantially at said second end of said visor. Neither the Hanano patent nor the Okamura patent disclose or suggest such a head piece, nor would such a combination provide the head piece of claim 13 of the present application. Therefore claim 13 is neither anticipated by nor obvious with respect to either the Hanano patent or the Okamura patent either singly or in combination.

Accordingly, it is respectfully requested that claim 13 be allowed.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

This Amendment increases the number of independent claims by 1 to 3 from 2 independent claims, does not increases the total number of claims and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is

currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

Any fee required by this document other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

By: Kathy Needleman
Kathy E. Needleman
Reg. No. 47,816
Attorney for Applicants

DAS:pm:jjk
SIDLEY AUSTIN BROWN & WOOD LLP
717 N. Harwood, Suite 3400
Dallas, Texas 75201
Direct: (214) 981-3474
Main: (214) 981-3300
Facsimile: (214) 981-3400
August 20, 2002

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The following is a marked-up version of the changes to the title and claims which are being made in the attached response to the Office Action dated May 21, 2002.

IN THE TITLE:

The title on page 1, line 1:

[IMAGE DISPLAY APPARATUS] HEAD-MOUNTED IMAGE DISPLAY APPARATUS

IN THE CLAIMS:

Claim 2 has been cancelled.

New claim 13 has been added.

1. (Amended) A head-mounted image display apparatus comprising:
an image display element;
a projection optical system that projects an image displayed by said image display element;
a screen onto which the image is projected by said projection optical system; and
a combiner disposed between said projection optical system and said screen,
wherein said combiner transmits image light from said projection optical system
and directs it to said screen, and reflects the image light reflected at the [screen.] screen
while simultaneously transmitting external light.

11. (Amended) A head-mounted image display apparatus comprising:
an image display element;

a projection optical system that projects an image displayed by said image display element;

a screen onto which the image is projected by said projection optical system; and
a combiner that reflects image light reflected at said screen, and simultaneously
transmits external light.